X-Plain™
Knee Replacement Surgery
Reference Summary

Severe arthritis in the knee can lead to serious pain and inability to walk. Doctors may recommend surgery for people suffering from severe arthritis in the knee to decrease the pain and to improve the patient's ability to walk.

If your doctor recommends surgery for you, the decision whether or not to have surgery is also yours. This reference summary will review the benefits and risks of this procedure.

Anatomy

The knee joint joins the thigh to the lower leg. The bones involved in this joint are:

- the femur, or thigh bone
- the tibia, one of the lower leg bones
- the patella, also known as the kneecap, a floating bone that gives the knee its round shape.

These bones are covered by special tissue called cartilage, or meniscus. The smooth surfaces of the meniscus allow for smooth, painless movement at the knee joint. Ligaments connect the bones and help to stabilize the knee.

Symptoms And Their Causes

Arthritis, or inflammation of the joint, causes the surfaces of the meniscus to become rough. This results in severe pain and even inability to walk. Knee arthritis can result from arthritic conditions such as osteoarthritis, a chronic breakdown of the joint, or may be caused by a previous injury.

The pain may interfere with your normal work and activities. Walking may become very difficult.

Alternative Treatments

Patients may try medications such as aspirin or ibuprofen to decrease the inflammation in the knee joint. Physical therapy may also help keep the joint as mobile as possible. The use of a cane or walker may also help. Injections of steroids in the knee joint may help the pain and reduce the inflammation.

For overweight patients, losing weight helps reduce stress on the knee joint. Losing weight also increases the success of the knee replacement operation, if it is recommended later. Eating a low fat diet and exercising regularly can reduce excess weight.

Surgical Treatment

The operation is done through an incision in the knee area. Parts of the femur and tibia, where they join each other, are cut and removed. The removed parts are replaced by artificial surfaces known as "prostheses."

Depending on the type of prosthesis, it may need to be cemented to the bone. Certain prostheses will not need to be cemented; instead, the bone surrounding the prosthesis grows into it and acts like cement.

At the end of the operation, the skin is closed. A drain may be used to remove any excess fluid.

Risks And Complications

This operation is very safe. There are, however, several possible risks and complications, which are unlikely but possible. You need to know about them just in case they happen. By being informed, you may be able to help your doctor detect complications early.

The risks and complications include:

- risks related to anesthesia
- risks related to any type of surgery
- risks specific to this surgery.

Risks related to anesthesia include but are not limited to heart attacks, strokes, pneumonia, and blood clots in the legs. These risks will be discussed with you in greater detail by your anesthesiologist.

Blood clots in the legs can occur. These usually show up a few days after surgery. They cause the leg to swell and hurt. These blood clots can be dislodged from the legs and go to the lungs where they will cause shortness of breath, chest pain and possibly death. Sometimes the shortness of breath can happen without warning. It is therefore extremely important to let your doctors know if any of these symptoms occur. Getting out of bed shortly after surgery may help decrease the risk of blood clots in the legs.

Some of the risks are seen in any type of surgery. These include:

- Infection, deep or at the skin level. If the infection involves the prosthesis, the prosthesis may need to be removed.
- Bleeding, either during or after the operation. This may require a blood transfusion.
- A skin scar that may be painful or ugly.

Other risks and complications are related specifically to this surgery. These are rare. However, it is important to know about them.

Organs in the knee area close to the surgery may be injured. Arteries, veins and nerves going to the leg may also be injured. This can lead to leg weakness or decreased sensation or very rarely, the loss of the leg below the knee.

The prosthesis may become loose from the adjoining bone or it may dislocate. In addition, the knee may not move as well as a normal knee joint. It may feel stiff. A difference in leg length may also occur in rare cases.

The pain may not be relieved by the operation. It may even be worse than before surgery. However, this occurs only in rare situations. In extremely rare cases, the patient may have a potentially fatal allergic reaction to the cement used.

After The Surgery

After the operation, a continuous, passive motion machine may be used for physical therapy. This machine bends your leg back and forth while you are resting in bed to help increase the mobility of the leg. Over time, you will be able to increase your activities under direct supervision of a physical therapist.

Eventually, you may resume most of your activities as you gradually strengthen your thigh and leg muscles. Initially, you may need the help of a cane or walker to take the pressure off your new knee. Over time, you will more than likely be able to walk without any aid.

Because of the extensive physical therapy program and the initial limitation of movement, a short stay at an extended care facility may be needed to improve the outcome of the surgery. If you need this, social workers at the hospital will help you with the arrangements.

Summary

Sometimes the knee joint can be severely damaged due to a variety of causes, such as arthritis or a knee injury. This can cause pain and inability to walk.

When appropriate, a total knee replacement can replace parts of the femur and tibia where they come together. The artificial replacement parts are called "prostheses." Knee replacement surgery is very successful in helping to decrease pain and improve the quality of life.

This operation is safe with good results. However, as you have learned, complications may happen. Knowing about them will help you detect them early if they happen.